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**REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND
THE COUNCIL**

**on solidarity and certain aspects concerning gas storage based on Regulation (EU)
2017/1938 of the European Parliament and of the Council**

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1. INTRODUCTION

Underground gas storages (UGS) are instrumental to the security of energy supply of the EU. With a total capacity of 1147 TWh (ca. 105 bcm, corresponding to about one third of EU's aggregated demand), it provides essential seasonal flexibility to the gas system, typically providing 25-35% of the actual gas consumption in the EU, during winter often as the main supply source. Gas storage enables a more efficient use of the EU gas system by reducing the need for high import flows during peak consumption periods when gas prices are higher thereby helping to avoid overinvestment in transmission infrastructure contributing to price stability and absorbing supply shocks.

In 2021, the EU experienced a prolonged period of volatile and high energy prices due to lower-than-usual storage filling levels, among other factors. The increased geopolitical tension after Russia's full-scale invasion of Ukraine in the beginning of 2022 amplified uncertainties and highlighted the need for adequately filled gas storage for future winters.

In June 2022, the co-legislators therefore adopted the Commission's proposal for the amendment¹ of the Regulation (EU) 2017/1938 on Security of Gas Supply (hereinafter Gas SoS Regulation)². The amendment sets, among other things, mandatory annual filling targets by 1 November each year: 80% in 2022 and 90% from 2023 onwards, as well as filling trajectories to meet those targets. Member States without gas storage are required to store at least 15% of their annual gas consumption in another Member State. Moreover, Regulation (EU) 2022/1032, or the Gas Storage Regulation, also introduced the obligation to certify storage system operators in each Member State.

Collectively, these measures have proven instrumental in weathering the gas supply shortages and have contributed significantly towards the reduction of market uncertainties and price volatility. The 2022 dramatic gas price spikes scenario was not repeated in 2023 or 2024 and the obligation to certify storage system operators eliminated the practice from 2021 where some of the third-party owned gas storage facilities were intentionally filled below capacity or late ahead of the winter months.

However, the EU's security of supply remains exposed to risks due to the geopolitical instability notably possible further weaponisation of supply by Russia in the context of its military aggression against Ukraine. These risks are likely to prolong the period of gas market tightness and uncertainty and underline the pivotal role storage facilities will continue to play for the EU's security of supply. This conclusion was recently confirmed by an extensive Court of Auditors' report on the EU's energy security measures.³

The current report takes stock of the implementation of the Gas Storage Regulation in 2024. It largely follows the structure established by the previous two annual reports but introduces some

¹ Regulation (EU) 2022/1032 of the European Parliament and of the Council of 29 June 2022 amending Regulations (EU) 2017/1938 and (EC) No 715/2009 with regard to gas storage (Gas Storage Regulation), (OJ L 173, 30.6.2022, p. 17–33).

² Regulation (EU) 2017/1938 of the European Parliament and of the Council of 25 October 2017 concerning measures to safeguard the security of gas supply and repealing Regulation (EU) No 994/2010 (Gas SoS Regulation) (OJ L 280 28.10.2017, p. 1).

³ [Special report 09/2024: Security of the supply of gas in the EU](#).

new elements, reflecting the legislative changes brought by the adoption of the Regulation (EU) 2024/1789 on the internal markets for renewable gas, natural gas and hydrogen (Gas Market Regulation), amending the Gas SoS Regulation. The new elements relate mainly to the risk assessment and solidarity provisions. Updates on gas storage measures, progress on certification procedures, as well as measures related to risk assessment and solidarity presented in this report are mainly based on information provided by Member States, complemented by data from Eurostat, the Joint Research Centre, ACER and ENTSOG.

2. LEGAL BASIS AND CONTEXT

Article 17a of Gas SoS Regulation, states that the Commission must submit annual reports to the European Parliament and the Council. These reports must include:

- an overview of the measures taken by Member States to fulfil their storage obligations;
- an overview of the time needed for the certification procedure, previously⁴ set out in Article 3a of Regulation (EC) No 715/2009⁵ (Gas Regulation);
- an overview of the measures requested by the Commission to ensure compliance with the filling trajectories and filling targets;
- an analysis of the potential effects of this Regulation on gas prices and potential gas savings in relation to Article 6b(4).

Amendments to Article 17a of the Gas SoS Regulation introduced by the Gas Market Regulation further requires the Commission to provide a general assessment of the application of Articles 6a to 6d, Article 7(1) and (4), point (g), Article 13, Article 13a, Article 16(3), Article 17a, Article 18a, Article 20(4), and Annexes Ia and Ib.

3. OVERVIEW OF MEASURES TAKEN BY MEMBER STATES

The amendments introduced by the Gas Storage Regulation provide that Member States must take all necessary measures to meet the filling targets. They should aim to use market-based measures where possible to avoid unnecessary market disruption. The measures may include regulatory measures, financial incentives or compensation to market participants.

The Storage Regulation provides an illustrative and non-exhaustive list of potential measures and tools. The Commission sent a survey to Member State authorities in autumn 2024 to collect the measures and tools they have used to ensure that their storage sites were filled. This included agreements, Memoranda of Understanding (MoUs), or burden-sharing mechanisms signed by Member States without UGS that include arrangements for utilisation of underground storage facilities.

The Member States with underground storage facilities confirmed that most measures used in 2022 and 2023 were continued in 2024. Last year, Austria, Latvia, the Netherlands and Spain adopted

⁴ The obligation to certify Storage System Operators is now in Article 15 of Regulation (EU) 2024/1789 of the European Parliament and of the Council of 13 June 2024 on the internal markets for renewable gas, natural gas and hydrogen amending Regulations (EU) No 1227/2011, (EU) 2017/1938, (EU) 2019/942 and (EU) 2022/869 and Decision (EU) 2017/684 and repealing Regulation (EC) No 715/2009 (recast) that started to apply from 5 February 2025 (OJ L, 2024/1789, 15.7.2024) (Gas Market Regulation).

⁵ Regulation (EC) No 715/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) No 1775/2005 (Gas Regulation) (OJ L 211 14.8.2009, p. 36).

new measures and/or prolonged or cancelled the existing measures. Austria's state controlled strategic reserve was prolonged, Latvia introduced a new bundled product to incentivise long - term usage of the storages and the Netherlands re-assigned the designated party with the task of filling the storage facility. In Spain, the discount on storage tariff for capacities of more than 20 days of firm consumption was discontinued. The favourable market conditions during the 2024 injection season eased the effective filling of the storage sites in time with no need to enforce measures of last resort. Among the most common measures implemented by Member States were:

- Minimum volume in gas storage: imposing an obligation on Storage System Operators (SSOs) on the minimum filling level to achieve, in line with the national objective;
- Tender capacities: requiring SSOs to tender the capacities to market participants (via capacity auctions in most cases);
- Appointment of a dedicated entity: designating an entity to provide a last resort service for storage;
- Strategic storage: adopting effective instruments for the purchase and management of strategic stocks by public or private entities;
- Unused booked capacities: ensuring that the capacities booked are effectively used by applying use-it-or-lose-it congestion mechanisms to release booked but unused storage capacities.

Further details on the implementation measures are provided by the Table 1.

Table 1 - Measures of article 6b implemented per Member State with UGS

| | AT | BE | BG | CZ | DE | DK | ES | FR | HR | HU | IT | LV | NL | PL | PT | RO | SE | SK |
|--|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Minimum volume in gas storage | x | | x | x | | | x | | t | x | | | | | x | x | | x |
| Tender of capacities | | x | | | | x | x | x | | | x | | | | x | | | |
| Balancing stock managed by TSO | | | | | | | | | x | | t | | | | | | | |
| Obligations imposed on designated entities | | | | x | x | x | | | x | | t | | | x | | | | |
| Coordinated instruments | | | | | | | | | | | | | | | | | | |
| Voluntary joint procurement mechanisms | | | | | | | | | | | | | | | | | | |
| Financial incentives for market participants | | x | | t | | x | x | | | | t | | t | | | | | |
| Unused booked capacities | x | x | | x | x | | x | | x | | x | | | | | | | |
| Strategic storage | x | | x | x | x | x | x | | | x | x | x | | | | | | |
| Appointment of dedicated entity | | | | | x | | x | x | t | | t | | t | | | x | | |
| Discount on storage tariffs | | x | | | | | t | | | | | | | | | | | |
| Capital and operational expenditures | | | | | | | | x | | | x | | | | | | | |
| Other | | | | | | | | | | | | | | | | | | |

T means temporary measure

Source: Member States' responses to EC survey and [ACER and VIS gas storage report 2023](#)

4. OVERVIEW OF THE CERTIFICATION PROCEDURE

The provisions of the Gas Storage Regulation, introduced into the Gas Regulation⁶, established the obligation to certify Storage System Operators by the competent national authorities aimed at reducing any risk for security of gas supply at regional, national, or Union-wide level resulting, *inter alia*, from:

- (a) ownership, supply or other commercial relationships that could negatively affect the incentives and the ability of the SSO to fill the underground gas storage facility;
- (b) the rights and obligations of the Union with respect to a third country arising under international law, including any agreement concluded with one or more third countries to which the Union is a party, and which addresses the issue of the security of energy supply;
- (c) the rights and obligations of the Member States concerned with respect to a third country arising under agreements concluded by the Member States concerned with one or more third countries, in so far as those agreements comply with Union law; or
- (d) any other specific facts and circumstances of the case.

The legislation requires the Member States to issue draft certification decisions by 2 January 2024 and notify them to the Commission. Some Member States submitted their storage certification decisions already in 2023 and the Commission issued six opinions.⁷ In 2024, the certification process continued and so far, five opinions have been issued, whereas 17 opinions for four Member States are in various stages of the adoption procedure. Submission of draft decisions from some Member States is still pending. In limited number of cases, drafting of the opinion depends on the amendments of the national legislative or regulatory framework and therefore they take longer to be issued. The perspective of having completed the certification procedure by the end of 2025 for the majority of the Member States seems realistic. Through the successful completion of the certification process Member States regained full control over their strategic assets, preventing repetition of the 2021 scenario when certain SSOs intentionally kept storages at very low level.

Table 2 – Overview of the certification procedure during 2024

| MS | Submissions | Pending submissions Number of operators (Number of storage sites) [1] | Total number of operators (Number of storage sites) [2] |
|----|-------------|---|--|
| AT | 4 | | 4 (8) |
| BE | 1 | | 1 (1) |
| BG | | 1 (1) | 1 (1) |
| CZ | | 4 (9) | 4 (9) |
| DE | 5 | 20 (24) | 25 (50) |
| DK | 1 | | 1 (2) |

⁶ As previously mentioned, the obligation to certify Storage System Operators is now in Article 15 of the Gas Market Regulation (Regulation(EU) 2024/1789).

⁷ https://energy.ec.europa.eu/topics/energy-security/gas-storage_en#certification-for-storage-system-operators.

| | | | |
|--------------|-----------|----------------|-----------------|
| ES | 2 | | 2 (4) |
| FR | 3 | | 3 (16) |
| HR | 1 | | 1 (1) |
| HU | 2 | | 2 (5) |
| IT | | 3 (13) | 3 (13) |
| LV | 1 | | 1 (1) |
| NL | 4 | 1 (3) | 4 (7) |
| PL | 1 | | 1 (7) |
| PT | 1 | | 1 (1) |
| RO | 2 | | 2 (6) |
| SE | 1 | | 1 (1) |
| SK | 2 | | 2 (2) |
| TOTAL | 31 | 29 (50) | 58 (122) |

¹¹ The certifications are issued by operator and/or by storage site.

¹² Based on exchange with MSs, GIE AGSI+ and ACER and VIS Gas Storage report 2023

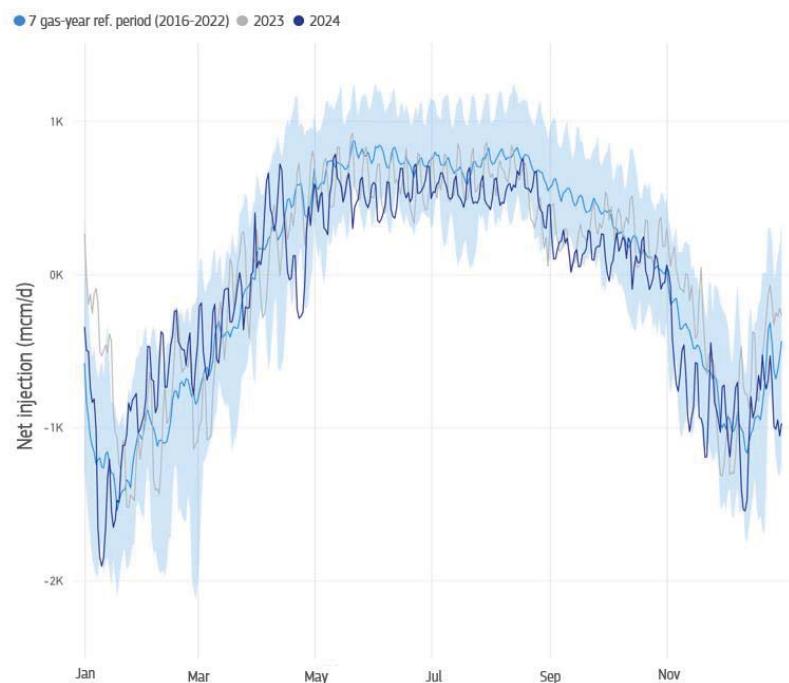
5. COMPLIANCE WITH THE STORAGE FILLING OBJECTIVES IN 2024

In November 2023, the Implementing Regulation (EU)2023/2633⁸ setting the 2024 intermediary filling targets was adopted. The intermediary filling targets provide the necessary flexibility for the Member States, allowing them to reach the ultimate 90% filling target by the start of the heating season in November. During 2024, the filling trajectory proceeded according to the established goals.

At the end of March 2024, the EU's UGS stock level was reaching 60% (670 TWh), reflecting continued above-average filling rates compared to historic levels. Gas storage levels in the second and third quarter of 2024 were closely aligned with those of 2023, with the EU reaching an overall 90% level on 19 August, almost on the same day as in 2023 (16 August). Since stocks were already high after the withdrawal season of 2023/2024, the filling was slower than usual during the last months of the injection period. Around 60% of the gas stored during the summer was injected in the months of May-July (see Figure 1). By 1 November 2024, EU's gas storage reached 95%, with all Member States exceeding the filling target, with the exception of Denmark (see Figure 2).

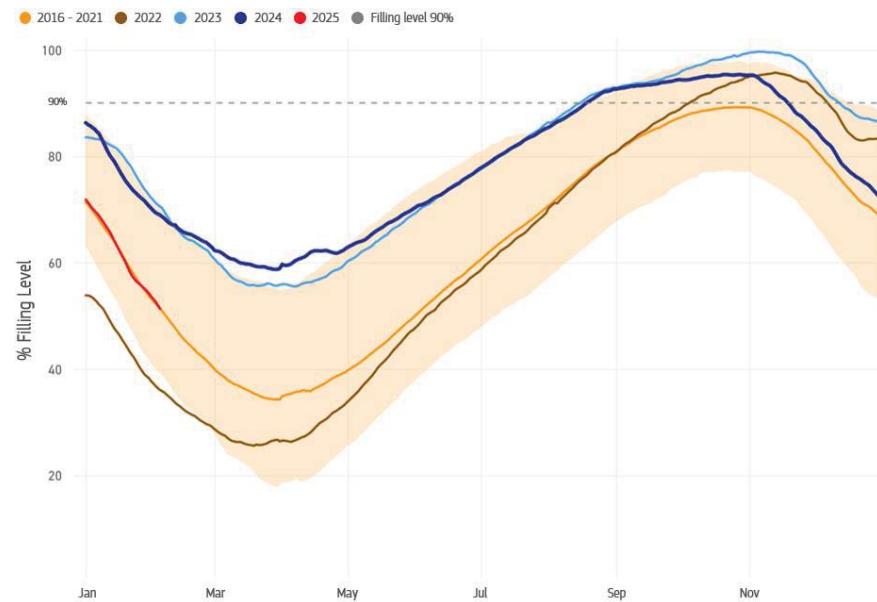
⁸ Commission Implementing Regulation (EU) 2023/2633 of 20 November 2023 setting the filling trajectory with intermediary targets for 2024 for each Member State with underground gas storage facilities on its territory and directly interconnected to its market area (OJ L, 2023/2633, 23.11.2023)

Figure 1 – Daily historical net injections



Source: JRC Security of Supply Dashboard ⁹

Figure 2 - Gas in EU underground storages in the year 2024 and year 2023 (until December) in comparison with the previous 6-year average and range.



Source: JRC Security of Supply Dashboard

By 1 November, almost all Member States filled their storages by more than 90%, thereby meeting the target set by the Implementing Regulation. The sole exception was Denmark, where storage levels were at 75% on 1 November. The below target storage filling in Denmark was due to a

⁹ [Link to the JRC Security of Supply Dashboard](#)

combination of technical infrastructure issues linked to the commissioning of the Tyra production platform, and unplanned maintenance on the Nybro gas terminal. In addition, Germany had applied a so-called gas storage levy until 31 December 2024, a tax duty on gas transported created to cover the costs of filling storage sites. Importing gas from the German direction therefore had appeared less attractive and encouraged market players to rather withdraw gas from gas storages, including Danish storages, instead. Despite not meeting the 1 November target, the overall energy security situation in Denmark remained stable, mainly thanks to the recent commissioning of the Baltic Pipe and continuously rising share of biomethane production covering nearly 40% of domestic gas consumption. However, the situation draws attention to the detrimental effects a measure adopted in one Member State can have on the energy security situation in another Member State and the need to avoid unilateral national measures. The European Commission has been in active dialogue with Denmark and the national competent authority that adopted measures allowing Denmark to meet the 1 February 2025 intermediary target.

It should be noted that the storage capacities of Latvia and the Netherlands are substantially larger than the domestic consumption volumes and for this reason, in line with Article 6a of the Gas Storage Regulation, the ultimate annual target for these two Member States is set differently and therefore, both countries did comply with the 90% filling target, even if the nominal value was slightly lower (see also footnote 11 for additional explanation of the reduction methodology).

As regards the Energy Community, there have been some progress on the implementation of the gas storage provisions of the Gas SoS Regulation. Serbia and Ukraine, the two Contracting Parties with storage facilities were fulfilling their storage targets (situation as of May 2024). For further details, please refer to the Energy Community Secretariat's 2024 annual report.¹⁰

Table 3 - Compliance with the filling targets of storage Regulation for 2024¹¹

| Member State | 1 February intermediary target | Filling Level 1 Februar y | 1 May intermediate target | Filling level 1 May | 1 July intermediate target | Filling level 1 July | 1 September intermediate target | Filling level 1 Septembe r | 1 November filling target | Filling level 1 Novembe r |
|--------------|--------------------------------|---------------------------|---------------------------|---------------------|----------------------------|----------------------|---------------------------------|----------------------------|---------------------------|---------------------------|
| AT | 50% | 81% | 40% | 75% | 58% | 83% | 72% | 92% | 90% | 94% |
| BE | 30% | 60% | 5% | 52% | 40% | 73% | 78% | 94% | 90% | 98% |
| BG | 52% | 67% | 33% | 44% | 55% | 72% | 77% | 88% | 90% | 100% |
| CZ | 40% | 75% | 25% | 62% | 30% | 82% | 60% | 93% | 90% | 92% |
| DE | 45% | 74% | 10% | 68% | 30% | 82% | 65% | 95% | 90% | 98% |
| DK | 45% | 75% | 40% | 55% | 60% | 64% | 80% | 75% | 90% | 75% |
| ES | 59% | 81% | 60% | 83% | 66% | 95% | 80% | 100% | 90% | 100% |
| FR | 41% | 59% | 11% | 50% | 39% | 68% | 81% | 90% | 90% | 95% |
| HR | 46% | 51% | 29% | 33% | 51% | 59% | 83% | 88% | 90% | 91% |
| HU | 51% | 76% | 37% | 71% | 65% | 78% | 86% | 90% | 90% | 91% |
| IT | 45% | 64% | 36% | 65% | 54% | 82% | 72% | 93% | 90% | 99% |
| LV | 45% | 57% | 41% | 46% | 63% | 58% | 90% | 71% | 90% | 80% |
| NL | 43% | 65% | 30% | 55% | 50% | 69% | 68% | 91% | 90% | 89% |
| PL | 50% | 75% | 35% | 43% | 60% | 73% | 80% | 98% | 90% | 98% |
| PT | 70% | 103% | 70% | 92% | 80% | 102% | 80% | 102% | 90% | 103% |

¹⁰ <https://www.energy-community.org/news/Energy-Community-News/2024/05/28b.html>.

¹¹ Regulatory targets of Table 3 are subject to reduction according to Art. 6a of the Gas SoS Regulation. The table indicating the targets is taken from the Annex of the Commission Implementing Regulation 2023/2633. Annex is subject to the pro rata obligations of each Member State under Gas SoS Regulation, in particular Articles 6a, 6b and 6c thereof. For Member States falling under Article 6a(2), the pro rata intermediate target shall be calculated by multiplying the value indicated in the table by the limit of 35 % and by dividing the result by 90 %.

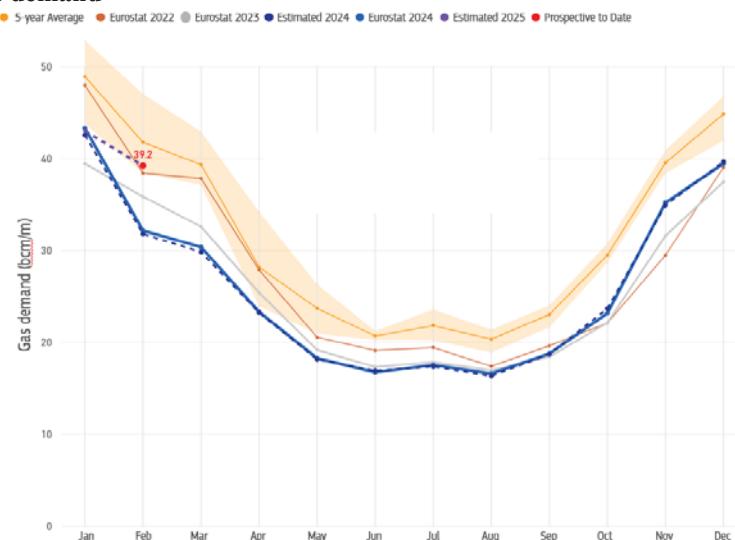
| | | | | | | | | | | |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| RO | 40% | 63% | 41% | 58% | 65% | 77% | 85% | 94% | 90% | 103% |
| SE | 59% | 77% | 30% | 63% | 61% | 63% | 79% | 91% | 90% | 91% |
| SK | 45% | 73% | 20% | 70% | 27% | 79% | 67% | 95% | 90% | 95% |

Source: filling levels based on GIE AGSI+

Demand reduction

Gas demand was reduced by 18% between August 2022 and September 2024, exceeding the 15% voluntary reduction target set out in the Regulation (EU) 2022/1369¹² and Council Recommendation C/2024/2476.¹³

Figure 3 - Monthly gas demand



Source: [JRC Security of Supply Dashboard](#)

Risk assessment

The EU-wide Security of Supply Simulation performed by ENTSOG in November 2024 takes into account scenarios of prolonged disruption of a single supply source. In particular, the complete disruption of Russian supply is considered as a baseline in all scenarios. All scenarios also assume exceptionally low storage levels at the beginning of the winter season and explore additional infrastructure disruptions that reflect risks relating to the control of infrastructure relevant for security of gas supply, such as misuse of existing infrastructure including capacity hoarding or infringement of Union law. The conclusions confirm the resilience of the EU gas system and also highlight the key role of gas demand reduction by means of energy savings or energy efficiency measures.

¹² Council Regulation (EU) 2022/1369 on coordinated demand-reduction measures for gas

¹³ Council Recommendation C/2024/2476 of 25 of March 2024 on continuing coordinated demand-reduction measures for gas

6. SOLIDARITY

The solidarity mechanisms introduced by Gas SoS Regulation play a crucial role in ensuring that protected customers, such as households and hospitals, maintain access to gas during extreme crises. Solidarity was initially implemented through voluntary bilateral solidarity agreements between directly connected EU Member States, with the exception of Malta, Cyprus and Ireland benefiting from a derogation (as they are not directly connected to any other Member State). There are nine solidarity agreements signed to date, out of the forty expected, including agreements between Germany, Italy, and Switzerland that were signed in 2024. In 2022, at the peak of the gas crisis, the low number of agreements ratified was exposing the EU to a security of supply risk and the concept of voluntary agreements was reassessed. Consequently, the concept of solidarity was strengthened through the Gas Market Regulation, establishing default solidarity provisions to operationalise the solidarity principle in case of a crisis and in a situation where bilateral solidarity agreements are not in place.

In addition, the Gas Market Regulation also extends the solidarity obligation to indirectly connected Member States, allowing them to access a larger market-based solidarity, *inter alia*, via LNG supplies. A November 2024 table-top crisis exercise ("dry run") organized by the Commission demonstrated the effectiveness of the new solidarity provisions, highlighting the role of market-based measures that reduce the overall cost of solidarity for the EU. Moreover, LNG can play a key role in solidarity requests, as Member States can play a facilitating role in the discussion between market actors, while having no legal obligation to require LNG shippers to divert their deliveries. The exercise also identified areas for improvement of the implementation of solidarity in case of crises, including the need for clearer procedures, guidelines on monitoring actions, and contractual arrangements between concerned parties to facilitate the implementation of the solidarity mechanisms.

7. IMPLEMENTATION OF THE GAS STORAGE REGULATION IN 2025

The intermediary filling trajectories targets for 2025 are based on the information provided by the Member States and the Commission's assessment of the general security of supply situation, taking into account the filling rates of the previous five years and ENTSOG's Winter Supply Outlook. The 2025 targets were formally set in November 2024 by the Commission Implementing Regulation (EU) 2024/2995, assisted by the Gas Storage Committee. These intermediary targets are deemed as minimum targets offering maximum market flexibility to reach the 90%, as long as demand reduction efforts continue and supplies are maintained on the level similar to the previous year.

Table 4 - Intermediate targets for 2025 for Member States with underground gas storage facilities, as adopted by Commission Implementing Regulation (EU) 2024/2995¹⁴. from 29.11.2024 (https://energy.ec.europa.eu/publications/implementing-regulation-setting-filling-trajectory-intermediary-targets-2025-member-states_en)

| Member State | 1 February intermediate target | 1 May intermediate target | 1 July intermediate target | 1 September intermediate target | 1 November filling target ¹⁵ |
|--------------|--------------------------------|---------------------------|----------------------------|---------------------------------|---|
| AT | 64% | 52% | 66% | 77% | 90% |
| BE | 30% | 5% | 40% | 78% | 90% |
| BG | 55% | 36% | 57% | 77% | 90% |
| CZ | 40% | 25% | 30% | 60% | 90% |
| DE | 45% | 10% | 30% | 65% | 90% |
| DK | 45% | 40% | 60% | 75% | 90% |
| ES | 58% | 53% | 64% | 80% | 90% |
| FR | 41% | 11% | 39% | 81% | 90% |
| HR | 46% | 29% | 51% | 83% | 90% |
| HU | 59% | 38% | 61% | 84% | 90% |
| IT | 55% | 45% | 54% | 72% | 90% |
| LV | 45% | 41% | 63% | 90% | 90% |
| NL | 47% | 39% | 57% | 72% | 90% |
| PL | 50% | 35% | 60% | 80% | 90% |
| PT | 70% | 70% | 80% | 80% | 90% |
| RO | 41% | 42% | 63% | 84% | 90% |
| SE | 53% | 5% | 5% | 5% | 90% |
| SK | 45% | 20% | 29% | 74% | 90% |

The ENTSOG's Winter Supply Outlook 2024/2025 suggests that under a reference winter scenario (no protracted cold spell periods), Europe could still reach 40% stock level of gas at the end of this winter season, even without Russian pipeline gas.

8. ANALYSIS OF POTENTIAL EFFECTS ON GAS PRICES

Gas storages continue to be instrumental in easing tension on gas markets as they can provide significant gas volumes when supply is tight and therefore, mitigate price fluctuations and spikes. It has been observed that the gas spot prices tend to be higher when the filling levels are below the average.¹⁶ In this context, the International Energy Agency noted in the [Medium-Term Gas Report 2023](#) that high storage level, together with subdued demand, 'weighed on spot gas prices in Europe' in the third quarter of 2023. Similarly, in its [report](#) of June 2023 ACER indicated that 'storage filling levels are significantly above last years' average and have contributed to driving prices down.'

As shown in the graph below, wholesale gas prices have been fluctuating between 30 and 50 EUR/MWh in recent months. Prices have fallen considerably since the peak of the crisis in summer 2022 when prices reached unprecedented levels above 300 EUR/MWh but they are still

¹⁴ The table is subject to the pro rata obligations of each Member State under Regulation (EU) 2017/1938, in particular Articles 6a, 6b and 6c thereof.

¹⁵ See Article 6a(1)(b) Regulation (EU) 2017/1938 of the European Parliament and of the Council of 25 October 2017 concerning measures to safeguard the security of gas supply and repealing Regulation (EU) No 994/2010.

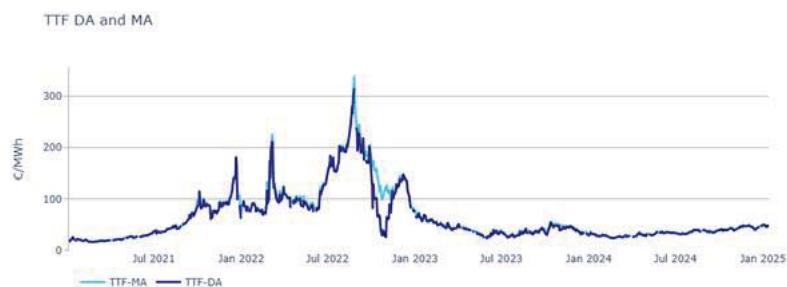
¹⁶ [What Drives Natural Gas Prices? on JSTOR](#)

significantly higher than pre-crisis and experiencing a number of episodes of pronounced volatility.

Member States and the Commission put in place a comprehensive package of measures that together contributed to improve the market situation and helped alleviate the pressure on price. The commitment to store minimum volumes of gas prior to the winter, as set out in Gas Security of Supply Regulation played an important role in this set of initiatives and the very high level of storage filling observed since late Autumn 2022 has been a key (while not the unique) determinant in easing the market tension and driving gas prices down.

However, during late autumn 2024 / early 2025, in a context of a tight market and higher demand due to colder weather, the European gas market, started to experience the trend of negative summer-winter spread. This price configuration is not favourable for storage injections during the summer, the usual time period for storage filling. The trend is relatively recent and in January 2025, the time of drafting of this report, there was still no unanimity around the exact causes for this development. The phenomenon could be observed also on other markets (e.g. South-East Asia) and can therefore not be explained solely by the demand-supply situation in Europe. Some recent European-specific factors, such as the cold weather, low renewables production, may contribute to the recent increase in gas prices and higher withdrawals from storage. It is likely that the upcoming wave of additional LNG capacity that is to come online in the coming years will have a downward effect on future global prices. In the meantime, to reduce system stress and avoid market distortions linked to gas storage refilling, the Commission will make use of the margin of manoeuvre provided within the regulation towards Member States and is issuing a Commission Recommendation, to support Member States to better coordinate and provide an even higher degree of flexibility on filling trajectories to fulfil filling targets for gas storage at their own pace.

Figure 4 - TTF day-ahead and month-ahead prices – June 2021 - September 2025



Source: ENER based on S&P Global data

9. CONCLUSION

In 2024, the objectives set by the Gas Storage Regulation have been largely met or surpassed. By 1 November, nearly all Member States complied with the regulatory target, Denmark being the only exception to the rule. However, the lower filling levels did not endanger Denmark's overall energy security situation and Denmark was able to meet the 1 February 2025 intermediary target.

The ENTSOG Winter Supply Outlook 2024/2025 as well the Commission's 2024 quarterly gas market reports indicate relatively smooth filling trajectories throughout 2024. This is confirmed by the fact that during 2024 no Member State has adopted any new filling measures compared to the last year. There was no resort to non-market-based measures and there are reasons to believe that the mechanism of minimum intermediary targets continues to enable sufficient level of flexibility for Member States to set their own measures and schedules. At the same time, achieving the objectives set by the Gas Storage Regulation helped in reducing the risk premium in the gas market at the end of the year.

The certification process of gas storage facilities continued during 2024. National authorities made progress on adopting certification decisions and the Commission has issued several opinions in the course of the year. Even though some Members States have yet failed to submit their decisions, the EU's control over the strategic assets have improved and the room for market manipulation has diminished considerably compared to 2021.

During 2024, no Member State has declared new crisis levels referred to in Article 11 of the Gas SoS Regulation. Finland went back from alert level to early warning and Denmark, Sweden and Estonia deactivated the early warning. Declaring a crisis is a precondition for a Member State to request application of solidarity measures and accordingly, no solidarity requests were made during 2024. Based on the survey to Member States, the Commission was informed that no bilateral burden sharing agreements were signed during 2024.

The test of the solidarity provisions introduced by the Gas Market Regulation 2024/1789, also confirms that the Member States, the Commission and ENTSOG are prepared for a gas emergency and the application of the existing and newly agreed EU provisions on solidarity generally provide an adequate framework to activate a rapid and effective crisis response. The new solidarity provisions extending the mechanisms to indirectly connected Member States, allow access to larger and supposedly cheaper market-based solidarity when the directly connected neighbours are in emergency. Moreover, LNG can play a key role in case of a solidarity request, but the effectiveness eventually depends on contractual arrangements between concerned parties.

Europe's energy security situation in 2024 is undoubtedly better than in 2022 and stable gas storage filling trajectories have contributed positively. However, the relatively cold start of the winter 2024-25 is depleting gas storages at a faster pace than in 2023, and the overall EU storage level, that was historically high during the previous years, decreased to a level equivalent to the pre-crisis average in just four weeks. In addition, the overall geopolitical context, the stagnating global LNG supply and steady global LNG demand may lead to a tighter global gas balance in 2025. Current market indicators do not foresee that gas prices in the EU will reach the record levels observed in 2022 but the risks associated with a continuously strained geopolitical situation, including the potential weaponisation of supply of Russian gas, remain high and may put some pressure on prices.

This combination of factors is confirming the relevance of the Gas Storage Regulation and the importance of ensuring high storage levels before the next winter season.